WHAT IS CLAIMED IS:

1. A method for regenerating nerves, comprising the step of:

inhibiting a p75 signal transduction pathway.

2. A method according to claim 1, wherein the p75 signal transduction pathway is present in a neuron at a site desired for nerve regeneration.

3. A method according to claim 1, wherein the inhibition of the p75 signal transduction pathway is achieved by providing a transduction agent in the p75 signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction pathway in an amount effective for regeneration.

4. A method according to claim 3, wherein the transduction agent in the p75 signal transduction pathway is at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

5. A method according to claim 1, wherein the inhibition of the p75 signal transduction pathway is selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of PKC, activation of IP_3, inhibition of an interaction between GT1b and p75, inhibition of an interaction between p75 and Rho, inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho

GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase.

6. A method according to claim 1, wherein the inhibition of the p75 signal transduction pathway is achieved by providing at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of suppressing or extinguishing an interaction between p75 and Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase, in an amount effective for regeneration.

7. A method according to claim 1, wherein the nerve regeneration is carried out *in vivo* or *in vitro*.

8. A method according to claim 1, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

9. A method according to claim 1, wherein the step of inhibiting the p75 signal transduction pathway comprises the step of:

providing a composition comprising at least one molecule selected from the group consisting of a Pep5

polypeptide, a nucleic acid molecule encoding the Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of specifically interacting with a p75 polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, a nucleic acid molecule encoding the p75 extracellular domain polypeptide, an agent capable of specifically interacting with a Rho GDI polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho GDI polypeptide, the Rho GDI polypeptide, a nucleic acid encoding the Rho GDI polypeptide, an agent capable of specifically interacting with a MAG polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, a nucleic molecule encoding p21, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho polypeptide, an agent capable of specifically interacting with a Rho kinase, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof, to the nerve in an amount effective for regeneration.

10. A method according to claim 4, wherein the agent is bound to a PTD domain.

11. A method for treatment, prophylaxis, diagnosis or prognosis of nervous diseases, nervous disorders and/or nervous conditions, comprising the step of:

modulating a p75 signal transduction pathway in a subject in need of or suspected of being in need of the

treatment, prophylaxis, diagnosis or prognosis.

12. A method according to claim 11, wherein the step of modulating the p75 signal transduction pathway comprises the step of:

administering a transduction agent in the p75 signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction pathway in an amount effective for regeneration to the subject in need of or suspected of being in need of the treatment, prophylaxis, diagnosis or prognosis.

13. A method according to claim 11, wherein the transduction agent in the p75 signal transduction pathway is at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

14. A method according to claim 11, wherein the modulation of the p75 signal transduction pathway comprises at least one modulation selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of PKC, activation of IP_3, inhibition of an interaction between GT1b and p75, inhibition of an interaction between p75 and Rho, inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase, in the subject in need of or suspected of being in need of the treatment, prophylaxis, diagnosis or prognosis.

15. A method according to claim 11, wherein the modulation of the p75 signal transduction pathway comprises the step of:

administering at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of suppressing or extinguishing an interaction between p75 and Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase, in an amount effective for regeneration to the subject in need of or suspected of being in need of the treatment, prophylaxis, diagnosis or prognosis.

16. A method according to claim 11, wherein the nerve regeneration is carried out *in vivo* or *in vitro*.

17. A method according to claim 11, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

18. A method according to claim 11, wherein the step of modulating the p75 signal transduction pathway comprises the step of:

providing a composition comprising at least one

molecule selected from the group consisting of a Pep5 polypeptide, a nucleic acid molecule encoding the Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of specifically interacting with a p75 polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, a nucleic acid molecule encoding the p75 extracellular domain polypeptide, an agent capable of specifically interacting with a Rho GDI polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho GDI polypeptide, the Rho GDI polypeptide, a nucleic acid encoding the Rho GDI polypeptide, an agent capable of specifically interacting with a MAG polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, a nucleic molecule encoding p21, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho polypeptide, an agent capable of specifically interacting with a Rho kinase and an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof, in an amount effective for the diagnosis, prophylaxis, treatment or prognosis to the nerve.

19. A method according to claim 11, further comprising the step of:

providing one or more drugs.

20. A method according to claim 13, wherein the agent is bound to a PTD domain.

21. A composition, comprising an agent capable of inhibiting a p75 signal transduction pathway.

22. A composition according to claim 21, wherein the agent capable of inhibiting the p75 signal transduction pathway is in a form appropriate for delivery to a neuron at a site desired for nerve regeneration.

23. A composition according to claim 21, wherein the agent capable of inhibiting the p75 signal transduction pathway comprises a transduction agent in the p75 signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction pathway.

24. A composition according to claim 23, wherein the transduction agent in the p75 signal transduction pathway comprises at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

25. A composition according to claim 21, wherein the agent capable of inhibiting the p75 signal transduction pathway has at least one action selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of PKC, activation of IP_3, inhibition of an interaction between GT1b and p75, inhibition of an interaction between p75 and Rho, inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase,

and inhibition of an activity of Rho kinase.

26. A composition according to claim 21, wherein the agent capable of inhibiting the p75 signal transduction pathway comprises at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of suppressing or extinguishing an interaction between p75 and Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase, and wherein

the agent capable of inhibiting the p75 signal transduction pathway is present in an amount effective for regeneration.

27. A composition according to claim 21, wherein the composition is suitable for *in vivo* or *in vitro* administration forms.

28. A composition according to claim 21, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

29. A composition according to claim 21, wherein the agent capable of inhibiting the p75 signal transduction pathway comprises at least one molecule selected from the group

consisting of a Pep5 polypeptide, a nucleic acid molecule encoding the Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of specifically interacting with a p75 polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, a nucleic acid molecule encoding the p75 extracellular domain polypeptide, an agent capable of specifically interacting with a Rho GDI polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho GDI polypeptide, the Rho GDI polypeptide, a nucleic acid encoding the Rho GDI polypeptide, an agent capable of specifically interacting with a MAG polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, a nucleic molecule encoding p21, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho polypeptide, an agent capable of specifically interacting with a Rho kinase and an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof.

30. A composition according to claim 21, wherein the agent is bound to a PTD domain.

31. A composition for treatment, prophylaxis, diagnosis or prognosis of nervous diseases, nervous disorders and/or nervous conditions, comprising an agent capable of modulating a p75 signal transduction pathway.

32. A composition according to claim 31, wherein the agent capable of modulating the p75 signal transduction pathway comprises a transduction agent in the p75 signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction pathway.

33. A composition according to claim 31, wherein the transduction agent in the p75 signal transduction pathway comprises at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

34. A composition according to claim 31, wherein the modulation of the p75 signal transduction pathway is selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of PKC, activation of IP_3, inhibition of an interaction between GT1b and p75, inhibition of an interaction between p75 and Rho, inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase.

35. A composition according to claim 31, wherein the agent capable of modulating the p75 signal transduction pathway comprises at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of

suppressing or extinguishing an interaction between p75 and Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase.

36. A composition according to claim 31, wherein the composition is in a form suitable for oral or parenteral administration.

37. A composition according to claim 31, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

38. A composition according to claim 31, wherein the agent capable of modulating the p75 signal transduction pathway comprises at least one molecule selected from the group consisting of a Pep5 polypeptide, a nucleic acid molecule encoding the Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of specifically interacting with a p75 polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, a nucleic acid molecule encoding the p75 extracellular domain polypeptide, an agent capable of specifically interacting with a Rho GDI polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho GDI polypeptide, the Rho GDI polypeptide, a nucleic acid encoding the Rho GDI polypeptide, an agent capable of

specifically interacting with a MAG polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, a nucleic molecule encoding p21, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho polypeptide, an agent capable of specifically interacting with a Rho kinase and an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof.

39. A composition according to claim 31, further comprising one or more drugs.

40. A composition according to claim 31, wherein the agent is bound to a PTD domain.

41. A composition for regenerating nerves, comprising a Pep5 polypeptide.

42. A composition according to claim 41, wherein the Pep5 polypeptide comprises:

(a) a polypeptide encoded by a nucleic acid sequence as set forth in SEQ ID NO. 1 or a fragment thereof;

(b) a polypeptide having an amino acid sequence as set forth in SEQ ID NO. 2 or a fragment thereof;

(c) a variant polypeptide having an amino acid sequence as set forth in SEQ ID NO. 2 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant polypeptide has a biological activity; or

(d) a polypeptide consisting of an amino acid sequence having at least 70% identity to any one of the polypeptides of (a) to (c), wherein the polypeptide has a biological activity.

43. A composition according to claim 41, wherein the Pep5 polypeptide comprises the whole amino acid sequence as set forth in SEQ ID NO. 2.

44. A composition according to claim 41, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

45. A composition according to claim 41, wherein the Pep5 polypeptide further comprises a PTD domain.

46. A composition for regenerating nerves, comprising a nucleic acid molecule encoding a Pep5 polypeptide.

47. A composition according to claim 46, wherein the nucleic acid molecule encoding the Pep5 polypeptide comprises:

(a) a polynucleotide having a base sequence as set forth in SEQ ID NO. 1 or a fragment thereof;

(b) a polynucleotide encoding an amino acid sequence as set forth in SEQ ID NO. 2 or a fragment thereof;

(c) a polynucleotide encoding a variant polypeptide having the amino acid sequence as set forth in SEQ ID NO. 2 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant polypeptide has a biological activity;

(d) a polynucleotide encoding a polypeptide hybridizable to any one of the polynucleotides of (a) to (c) under stringent conditions, wherein the polypeptide has a biological activity; or

(e) a polynucleotide consisting of a base sequence having at least 70% identity to any one of the polynucleotides of (a) to (c) or a complementary sequence thereof, wherein the polynucleotide encodes a polypeptide having a biological activity.

48. A composition according to claim 46, wherein the nucleic acid molecule encoding the Pep5 polypeptide comprises the whole nucleotide sequence in the nucleic acid sequence as set forth in SEQ ID NO. 1.

49. A composition according to claim 46, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

50. A composition according to claim 41, wherein the nucleic acid molecule encoding the Pep5 polypeptide comprises a sequence encoding a PTD domain.

51. A composition for regenerating nerves, comprising an agent capable of specifically interacting with a p75 polypeptide.

52. A composition according to claim 51, wherein the p75 polypeptide comprises:

(a) a polypeptide encoded by a nucleic acid sequence as set forth in SEQ ID NO. 3 or 16 or a fragment thereof;

(b) a polypeptide having an amino acid sequence as set

forth in SEQ ID NO. 4 or 17 or a fragment thereof;

(c) a variant polypeptide having the amino acid sequence as set forth in SEQ ID NO. 4 or 17 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant polypeptide has a biological activity;

(d) a polypeptide encoded by a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 3 or 16;

(e) a species homolog polypeptide of a polypeptide having the amino acid sequence as set forth in SEQ ID NO. 4 or 17; or

(f) a polypeptide consisting of an amino acid sequence having at least 70% identity to the amino acid sequence of any one of the polypeptides of (a) to (e), wherein the polypeptide has a biological activity.

53. A composition according to claim 51, wherein the p75 polypeptide comprises amino acids 273 to 427 or 274 to 425 of the amino acid sequence as set forth in SEQ ID NO. 4 or 17, respectively.

54. A composition according to claim 51, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

55. A composition according to claim 51, wherein the agent comprises an antibody.

56. A composition for regenerating nerves, comprising an agent capable of specifically interacting with a nucleic acid molecule encoding a p75 polypeptide.

57. A composition according to claim 56, wherein a nucleic acid molecule encoding the p75 polypeptide is a polynucleotide selected from the group consisting of:

(a) a polynucleotide having a base sequence as set forth in SEQ ID NO. 3 or 16 or a fragment sequence thereof;

(b) a polynucleotide encoding an amino acid sequence as set forth in SEQ ID NO. 4 or 17 or a fragment thereof;

(c) a polynucleotide encoding a variant polypeptide havingthe amino acid sequence as set forth in SEQ ID NO. 4 or 17 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant polypeptide has a biological activity;

(d) a polynucleotide which is a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 3 or 16;

(e) a polynucleotide encoding a species homolog of a polypeptide consisting of the amino acid sequence as set forth in SEQ ID NO. 4 or 17;

(f) a polynucleotide hybridizable to any one of the polynucleotides of (a) to (e) under stringent conditions, wherein the polynucleotide encodes a polypeptide having a biological activity; or

(g) a polynucleotide consisting of a base sequence having at least 70% identity to any one of the polynucleotides of (a) to (e) or a complementary sequence thereof, wherein the polynucleotide encodes a polypeptide having a biological activity.

58. A composition according to claim 56, wherein the nucleic acid molecule encoding the p75 polynucleotide

comprises nucleotides 1110 to 1283 or 1113 to 1277 of the nucleic acid sequence as set forth in SEQ ID NO. 3 or 16, respectively.

59. A composition according to claim 56, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

60. A composition according to claim 56, wherein the agent is an antisense or RNAi of the nucleic acid molecule encoding the p75 polypeptide.

61. A composition for regenerating nerves, comprising a p75 extracellular domain polypeptide.

62. A composition according to claim 61, wherein the p75 extracellular domain comprises:

(a) a polypeptide encoded by nucleotides 198 to 863 or 201 to 866 of a nucleic acid sequence as set forth in SEQ ID NO. 3 or 16, respectively, or a fragment thereof;

(b) a polypeptide having amino acids 29 to 250 or 30 to 251 of an amino acid sequence as set forth in SEQ ID NO. 4 or 17, respectively, or a fragment thereof;

(c) a variant polypeptide having amino acids 29 to 250 or 30 to 251 of the amino acid sequence as set forth in SEQ ID NO. 4 or 17, respectively, having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant polypeptide has a biological activity;

(d) a polypeptide encoded by a sequence of a splice variant or allelic variant of nucleotides 198 to 863 or 201 to 866 of the base sequence as set forth in SEQ ID NO. 3 or

16, respectively;

(e) a species homolog polypeptide of a polypeptide having amino acids 29 to 250 or 30 to 251 of the amino acid sequence as set forth in SEQ ID NO. 4 or 17, respectively; or

(f) a polypeptide consisting of an amino acid sequence having at least 70% identity to any one of the polypeptides of (a) to (e), wherein the polypeptide has a biological activity.

63. A composition according to claim 61, wherein the p75 extracellular domain polypeptide comprises amino acids 29 to 250 or 30 to 251 of the amino acid sequence as set forth in SEQ ID NO. 4 or 17, respectively.

64. A composition according to claim 61, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

65. A composition according to claim 61, wherein the p75 extracellular domain polypeptide is soluble.

66. A composition for regenerating nerves, comprising a nucleic acid molecule encoding the p75 extracellular domain polypeptide.

67. A composition according to claim 66, wherein the nucleic acid molecule encoding the p75 extracellular domain polypeptide is a polynucleotide selected from the group consisting of:

(a) a polynucleotide having nucleotides 198 to 863 or 201 to 866 of a base sequence as set forth in SEQ ID NO. 3

or 16, respectively, or a fragment thereof;

(b) a polynucleotide encoding amino acids 29 to 250 or 30 to 251 of an amino acid sequence as set forth in SEQ ID NO. 4 or 17, respectively, or a fragment thereof;

(c) a polynucleotide encoding a variant polypeptide having amino acids 29 to 250 or 30 to 251 of the amino acid sequence as set forth in SEQ ID NO. 4 or 17, respectively, having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant polypeptide has a biological activity;

(d) a polynucleotide which is a splice variant or allelic variant of nucleotides 198 to 863 or 201 to 866 of the base sequence as set forth in SEQ ID NO. 3 or 16, respectively;

(e) a polynucleotide encoding a species homolog of a polypeptide consisting of amino acid 29 to 250 or 30 to 251 of the amino acid sequence as set forth in SEQ ID NO. 4 or 17, respectively;

(f) a polynucleotide hybridizable to any one of the polynuleotides of (a) to (e) under stringent conditions, wherein the polynucleotide encodes a polypeptide having a biological activity; or

(g) a polynucleotide consisting of a base sequence having at least 70% identity to any one of the polynucleotides of (a) to (e) or a complementary sequence thereof, wherein the polypeptide has a biological activity.

68. A composition according to claim 66, wherein the nucleic acid molecule encoding the p75 extracellular domain polypeptide comprises nucleotides 198 to 863 or 201 to 866 of the nucleic acid sequence as set forth in SEQ ID NO. 3

or 16, respectively.

69. A composition according to claim 66, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

70. A composition according to claim 66, wherein the p75 extracellular domain polypeptide is soluble.

71. A composition for regenerating nerves, comprising an agent capable of specifically interacting with a Rho GDI polypeptide.

72. A composition according to claim 71, wherein the Rho GDI polypeptide comprises:

(a) a polypeptide encoded by a nucleic acid sequence as set forth in SEQ ID NO. 5 or a fragment thereof;

(b) a polypeptide having an amino acid sequence SEQ ID NO. 6 or a fragment thereof;

(c) a variant polypeptide having the amino acid sequence as set forth in SEQ ID NO. 6 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant peptide has a biological activity;

(d) a polypeptide encoded by a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 5;

(e) a species homolog polypeptide of a polypeptide having the amino acid sequence as set forth in SEQ ID NO. 6; or

(f) a polypeptide consisting of an amino acid sequence having at least 70% identity to any one of the polypeptides

of (a) to (e), wherein the polypeptide has a biological activity.

73. A composition according to claim 71, wherein the Rho GDI polypeptide comprises the entire amino acid sequence as set forth in SEQ ID NO. 6.

74. A composition according to claim 71, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

75. A composition according to claim 71, wherein the agent comprises an antibody.

76. A composition for regenerating nerves, comprising an agent capable of specifically interacting with a nucleic acid molecule encoding a Rho GDI polypeptide.

77. A composition according to claim 76, wherein the nucleic acid encoding the Rho GDI polypeptide is a polynucleotide selected from the group consisting of:

(a) a polynucleotide having a base sequence as set forth in SEQ ID NO. 5 or a fragment sequence thereof;

(b) a polynucleotide encoding an amino acid of an amino acid sequence as set forth in SEQ ID NO. 6 or a fragment thereof;

(c) a polynucleotide encoding a variant polypeptide having the amino acid of the amino acid sequence as set forth in SEQ ID NO. 6 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant polypeptide has a biological activity;

(d) a polynucleotide which is a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 5;

(e) a polynucleotide encoding a species homolog of a polypeptide consisting of the amino acid sequence as set forth in SEQ ID NO. 6;

(f) a polynucleotide hybridizable to any one of the polynucleotides of (a) to (e) under stringent conditions, wherein the polynucleotide encodes a polypeptide having a biological activity; or

(g) a polynucleotide consisting of a base sequence having at least 70% identity to any one of the polynucleotides of (a) to (e) or a complementary sequence thereof, and wherein the polynucleotide encodes a polypeptide having a biological activity.

78. A composition according to claim 76, wherein the Rho GDI comprises the entire nucleic acid sequence as set forth in SEQ ID NO. 5.

79. A composition according to claim 76, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

80. A composition according to claim 76, wherein the agent comprises an antisense molecule or RNAi.

81. A composition for regenerating nerves, comprising an agent capable of specifically interacting with a MAG polypeptide.

82. A composition according to claim 81, wherein the MAG

polypeptide comprises:

(a) a polypeptide encoded by a nucleic acid molecule as set forth in SEQ ID NO. 7 or a fragment thereof;

(b) a polypeptide having an amino acid sequence as set forth in SEQ ID NO. 8 or a fragment thereof;

(c) a variant polypeptide having the amino acid sequence as set forth in SEQ ID NO. 8 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant polypeptide has a biological activity;

(d) a polypeptide encoded by a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 7;

(e) a species homolog polypeptide of a polypeptide having the amino acid sequence as set forth in SEQ ID NO. 8; or

(f) a polypeptide consisting of an amino acid sequence having at least 70% identity to any one of the polypeptides of (a) to (e) and wherein the polypeptide has a biological activity.

83. A composition according to claim 81, wherein the MAG polypeptide comprises amino acids 1 to 626 of the amino acid sequence as set forth in SEQ ID NO. 8.

84. A composition according to claim 81, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

85. A composition according to claim 81, wherein the agent comprises an antibody.

86. A composition for regenerating nerves, comprising an agent capable of specifically interacting with a nucleic acid molecule encoding a MAG polypeptide.

87. A composition according to claim 86, wherein the nucleic acid molecule encoding the MAG polypeptide is a polynucleotide selected from the group consisting of:

(a) a polynucleotide having a base sequence as set forth in SEQ ID NO. 7 or a fragment sequence thereof;

(b) a polynucleotide encoding an amino acid sequence as set forth in SEQ ID NO. 8 or a fragment thereof;

(c) a polynucleotide encoding a variant polypeptide having the amino acid sequence as set forth in SEQ ID NO. 8 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant polypeptide has a biological activity;

(d) a polynucleotide which is a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 7;

(e) a polynucleotide encoding a species homolog of a polypeptide consisting of the amino acid having the amino acid sequence as set forth in SEQ ID NO. 8;

(f) a polynucleotide hybridizable to any one of the polynucleotides of (a) to (e) under stringent conditions, wherein the polynucleotide has a biological activity; or

(g) a polynucleotide consisting of a base sequence having at least 70% identity to any one of the polynucleotides of (a) to (e) or a complementary sequence thereof, wherein the polypeptide has a biological activity.

88. A composition according to claim 86, wherein the

nucleic acid molecule encoding the MAG polypeptide comprises nucleotides 1 to 2475 of the nucleic acid sequence as set forth in SEQ ID NO. 7.

89. A composition according to claim 86, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

90. A composition according to claim 86, wherein the agent is an antisense or RNAi of the nucleic acid molecule encoding the MAG polypeptide.

91. A composition for regenerating nerves, comprising an agent capable of specifically interacting with a Rho polypeptide.

92. A composition according to claim 91, wherein the Rho polypeptide comprises:

(a) a polypeptide encoded by a nucleic acid sequence as set forth in SEQ ID NO. 11 or a fragment thereof;

(b) a polypeptide having an amino acid sequence SEQ ID NO. 12 or a fragment thereof;

(c) a variant polypeptide having the amino acid sequence as set forth in SEQ ID NO. 12 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant peptide has a biological activity;

(d) a polypeptide encoded by a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 11;

(e) a species homolog polypeptide of a polypeptide having the amino acid sequence as set forth in SEQ ID

NO. 12; or

(f) a polypeptide consisting of an amino acid sequence having at least 70% identity to any one of the polypeptides of (a) to (e), wherein the polypeptide has a biological activity.

93. A composition according to claim 91, wherein the Rho polypeptide comprises amino acids 1 to 193 of the amino acid sequence as set forth in SEQ ID NO. 12.

94. A composition according to claim 91, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

95. A composition according to claim 91, wherein the agent comprises an antibody.

96. A composition for regenerating nerves, comprising an agent capable of specifically interacting with a nucleic acid molecule encoding a Rho polypeptide.

97. A composition according to claim 96, wherein the nucleic acid molecule encoding the Rho polypeptide is a polynucleotide selected from the group consisting of:

(a) a polynucleotide having a base sequence as set forth in SEQ ID NO. 11 or a fragment sequence thereof;

(b) a polynucleotide encoding an amino acid sequence as set forth in SEQ ID NO. 12 or a fragment thereof;

(c) a polynucleotide encoding a variant polypeptide having the amino acid sequence as set forth in SEQ ID NO. 12 having at least one mutation selected from the group consisting of one or more amino acid substitutions,

additions, and deletions, wherein the variant polypeptide has a biological activity;

(d) a polynucleotide which is a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 11;

(e) a polynucleotide encoding a species homolog of a polypeptide consisting of the amino acid having the amino acid sequence as set forth in SEQ ID NO. 12;

(f) a polynucleotide hybridizable to any one of the polynucleotides of (a) to (e) under stringent conditions, wherein the polynucleotide has a biological activity; or

(g) a polynucleotide consisting of a base sequence having at least 70% identity to any one of the polynucleotides of (a) to (e) or a complementary sequence thereof, wherein the polypeptide has a biological activity.

98. A composition according to claim 96, wherein the nucleic acid molecule encoding the Rho polypeptide comprises nucleotides 1 to 579 of the nucleic acid sequence as set forth in SEQ ID NO. 11.

99. A composition according to claim 96, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

100. A composition according to claim 96, wherein the agent comprises an antisense molecule or RNAi.

101. A composition for regenerating nerves, comprising an agent capable of specifically interacting with a Rho kinase polypeptide.

102. A composition according to claim 101, wherein the Rho kinase polypeptide comprises:

(a) a polypeptide encoded by a nucleic acid sequence as set forth in SEQ ID NO. 18 or a fragment thereof;

(b) a polypeptide having an amino acid sequence SEQ ID NO. 19 or a fragment thereof;

(c) a variant polypeptide having the amino acid sequence as set forth in SEQ ID NO. 19 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant peptide has a biological activity;

(d) a polypeptide encoded by a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 18;

(e) a species homolog polypeptide of a polypeptide having the amino acid sequence as set forth in SEQ ID NO. 19; or

(f) a polypeptide consisting of an amino acid sequence having at least 70% identity to any one of the polypeptides of (a) to (e), wherein the polypeptide has a biological activity.

103. A composition according to claim 101, wherein the Rho kinase polypeptide comprises amino acids 1 to 1388 of the amino acid sequence as set forth in SEQ ID NO. 19.

104. A composition according to claim 101, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

105. A composition according to claim 101, wherein the agent comprises an antibody.

106. A composition for regenerating nerves, comprising an agent capable of specifically interacting with a nucleic acid molecule encoding a Rho kinase polypeptide.

107. A composition according to claim 106, wherein the nucleic acid molecule encoding the Rho kinase polypeptide is a polynucleotide selected from the group consisting of:

(a) a polynucleotide having a base sequence as set forth in SEQ ID NO. 18 or a fragment sequence thereof;

(b) a polynucleotide encoding an amino acid sequence as set forth in SEQ ID NO. 19 or a fragment thereof;

(c) a polynucleotide encoding a variant polypeptide having the amino acid sequence as set forth in SEQ ID NO. 19 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant polypeptide has a biological activity;

(d) a polynucleotide which is a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 18;

(e) a polynucleotide encoding a species homolog of a polypeptide consisting of the amino acid having the amino acid sequence as set forth in SEQ ID NO. 19;

(f) a polynucleotide hybridizable to any one of the polynucleotides of (a) to (e) under stringent conditions, wherein the polynucleotide has a biological activity; or

(g) a polynucleotide consisting of a base sequence having at least 70% identity to any one of the polynucleotides of (a) to (e) or a complementary sequence thereof, wherein the polypeptide has a biological activity.

108. A composition according to claim 106, wherein the nucleic acid molecule encoding the Rho kinase polypeptide comprises nucleotides 1 to 4164 of the nucleic acid sequence as set forth in SEQ ID NO. 18.

109. A composition according to claim 106, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

110. A composition according to claim 106, wherein the agent comprises an antisense molecule or RNAi.

111. A composition for regenerating nerves, comprising a p21 polypeptide.

112. A composition according to claim 111, wherein the p21 polypeptide comprises:

(a) a polypeptide encoded by a nucleic acid sequence as set forth in SEQ ID NO. 13 or 22 or a fragment thereof;

(b) a polypeptide having an amino acid sequence SEQ ID NO. 14 or 23 or a fragment thereof;

(c) a variant polypeptide having the amino acid sequence as set forth in SEQ ID NO. 14 or 23 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant peptide has a biological activity;

(d) a polypeptide encoded by a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 13 or 22;

(e) a species homolog polypeptide of a polypeptide having the amino acid sequence as set forth in SEQ ID

NO. 14 or 23; or

(f) a polypeptide consisting of an amino acid sequence having at least 70% identity to any one of the polypeptides of (a) to (e), wherein the polypeptide has a biological activity.

113. A composition according to claim 111, wherein the p21 polypeptide comprises amino acids 1 to 140 of the amino acid as set forth in SEQ ID NO. 14 or 23.

114. A composition according to claim 111, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

115. A composition according to claim 111, wherein the p21 polypeptide further comprises a PTD domain.

116. A composition according to claim 115, wherein the PTD domain comprises an amino acid sequence of YGRKKRRQRRR or the amino acid sequence having one or more substitutions, additions and/or deletions.

117. A composition according to claim 115, wherein the PTD domain is located at the C-terminus or the N-terminus of the p21 polypeptide.

118. A composition according to claim 111, wherein the p21 polypeptide is substantially free of a nuclear localization domain.

119. A composition according to claim 111, wherein the p21 polypeptide further comprises a PTD domain and is

substantially free of a nuclear localization domain.

120. A composition according to claim 111, wherein the p21 polypeptide further comprises a PTD domain and is substantially free of a nuclear localization domain, and the PTD domain is located at the C-terminus of the p21 polypeptide.

121. A composition for regenerating nerves, comprising a nucleic acid molecule encoding a p21 polypeptide.

122. A composition according to claim 121, wherein the nucleic acid molecule encoding the p21 polypeptide is a polynucleotide selected from the group consisting of:

(a) a polynucleotide having a base sequence as set forth in SEQ ID NO. 13 or 22 or a fragment sequence thereof;

(b) a polynucleotide encoding an amino acid sequence as set forth in SEQ ID NO. 14 or 23 or a fragment thereof;

(c) a polynucleotide encoding a variant polypeptide having the amino acid sequence as set forth in SEQ ID NO. 14 or 23 having at least one mutation selected from the group consisting of one or more amino acid substitutions, additions, and deletions, wherein the variant polypeptide has a biological activity;

(d) a polynucleotide which is a splice variant or allelic variant of the base sequence as set forth in SEQ ID NO. 13 or 22;

(e) a polynucleotide encoding a species homolog of a polypeptide consisting of the amino acid having the amino acid sequence as set forth in SEQ ID NO. 14 or 23;

(f) a polynucleotide hybridizable to any one of the

polynucleotides of (a) to (e) under stringent conditions, wherein the polynucleotide has a biological activity; or

(g) a polynucleotide consisting of a base sequence having at least 70% identity to any one of the polynucleotides of (a) to (e) or a complementary sequence thereof, wherein the polypeptide has a biological activity.

123. A composition according to claim 121, wherein the nucleic acid molecule encoding the p21 polypeptide comprises nucleotides 1 to 420 of the base sequence as set forth in SEQ ID NO. 13 or 22.

124. A composition according to claim 121, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

125. A composition according to claim 121, wherein the nucleic acid molecule encoding the p21 polypeptide further comprises an agent encoding a PTD domain.

126. A composition according to claim 125, wherein the PTD domain comprises an amino acid sequence of YGRKKRRQRRR or the amino acid sequence having one or more substitutions, additions and/or deletions.

127. A composition according to claim 125, wherein a sequence encoding the PTD domain is located at the 5'-terminus or the 3'-terminus of a sequence encoding the p21 polypeptide.

128. A composition according to claim 121, wherein the nucleic acid molecule encoding the p21 polypeptide is substantially free of a sequence encoding a nuclear

localization domain.

129. A composition according to claim 121, wherein the nucleic acid molecule encoding the p21 polypeptide further comprises a sequence encoding a PTD domain and is substantially free of a sequence encoding a nuclear localization domain.

130. A composition according to claim 121, wherein the nucleic acid molecule encoding the p21 polypeptide further comprises a sequence encoding a PTD domain and is substantially free of a sequence encoding a nuclear localization domain, and the sequence encoding the PTD domain is located at the 3'-terminus of the nucleic acid molecule encoding the p21 polypeptide.

131. A composition for regenerating nerves, comprising a PTD domain and a nerve regeneration agent.

132. A composition according to claim 131, wherein the nerve regeneration agent inhibits a p75 signal transduction pathway.

133. A composition according to claim 131, wherein the nerve regeneration agent comprises a transduction agent in the p75 signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction pathway.

134. A composition according to claim 133, wherein the transduction agent in the p75 signal transduction pathway comprises at least one transduction agent selected from the

group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

135. A composition according to claim 131, wherein the nerve regeneration agent has at least one action selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of PKC, activation of IP_3, inhibition of an interaction between GT1b and p75, inhibition of an interaction between p75 and Rho, inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase.

136. A composition according to claim 131, wherein the nerve regeneration agent comprises at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of suppressing or extinguishing an interaction between p75 and Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase.

137. A composition according to claim 131, wherein the nerve regeneration agent comprises an agent selected from

the group consisting of a Pep5 polypeptide, a nucleic acid molecule encoding the Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of specifically interacting with a p75 polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, a nucleic acid molecule encoding the p75 extracellular domain polypeptide, an agent capable of specifically interacting with a Rho GDI polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho GDI polypeptide, the Rho GDI polypeptide, a nucleic acid encoding the Rho GDI polypeptide, an agent capable of specifically interacting with a MAG polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, a nucleic molecule encoding p21, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho polypeptide, an agent capable of specifically interacting with a Rho kinase and an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof.

138. A composition according to claim 131, wherein the PTD domain comprises an amino acid sequence of YGRKKRRQRRR or the amino acid sequence having one or more substitutions, additions and/or deletions.

139. A composition according to claim 131, wherein the PTD domain is located at the C-terminus or the N-terminus of the p21 polypeptide.

140. A composition according to claim 131, wherein the nerve regeneration agent is capable of residing in the cytoplasm.

141. A composition for regenerating nerves, comprising a nucleic acid molecule comprising a nucleic acid sequence encoding a PTD domain and a nucleic acid sequence encoding a nerve regeneration agent.

142. A composition according to claim 141, wherein the nerve regeneration agent inhibits a p75 signal transduction pathway.

143. A composition according to claim 141, wherein the nerve regeneration agent comprises a transduction agent in the p75 signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction pathway.

144. A composition according to claim 143, wherein the transduction agent in the p75 signal transduction pathway comprises at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21 and Rho kinase.

145. A composition according to claim 141, wherein the nerve regeneration agent has at least one action selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of PKC, activation of IP_3, inhibition of an interaction between GT1b and p75, inhibition of an interaction between p75 and Rho,

inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase.

146. A composition according to claim 141, wherein the nerve regeneration agent comprises at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between p75 and Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase.

147. A composition according to claim 141, wherein the nerve regeneration agent comprises an agent selected from the group consisting of a Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of specifically interacting with a p75 polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, the Rho GDI polypeptide, an agent capable of specifically interacting with a MAG polypeptide, an agent capable of

specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho polypeptide, an agent capable of specifically interacting with a Rho kinase and an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof.

148. A composition according to claim 141, wherein the PTD domain comprises an amino acid sequence of YGRKKRRQRRR or the amino acid sequence having one or more substitutions, additions and/or deletions.

149. A composition according to claim 141, wherein the nucleic acid sequence encoding the PTD domain is located at the 5'-terminus or the 3'-terminus of the p21 polypeptide.

150. A composition according to claim 141, wherein the nerve regeneration agent is capable of residing in the cytoplasm.

151. A method for disrupting or reducing inhibition of neurite outgrowth, comprising the step of:

inhibiting a p75 signal transduction pathway.

152. A method according to claim 151, wherein the inhibition of the p75 signal transduction pathway is achieved by providing a transduction agent in the p75 signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction

pathway in an amount effective for regeneration.

153. A method according to claim 151, wherein the transduction agent in the p75 signal transduction pathway comprises at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

154. A method according to claim 151, wherein the inhibition of the p75 signal transduction pathway is selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of PKC, activation of IP_3, inhibition of an interaction between GT1b and p75, inhibition of an interaction between p75 and Rho, inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase.

155. A method according to claim 151, wherein the inhibition of the p75 signal transduction pathway is achieved by providing at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of suppressing or extinguishing an interaction between p75 and Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP

to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase, in an amount effective for regeneration.

156. A method according to claim 151, wherein the step of inhibiting the p75 signal transduction pathway comprises the step of:

providing at least one molecule selected from the group consisting of a Pep5 polypeptide, a nucleic acid molecule encoding the Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of specifically interacting with a p75 polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, a nucleic acid molecule encoding the p75 extracellular domain polypeptide, an agent capable of specifically interacting with a Rho GDI polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho GDI polypeptide, the Rho GDI polypeptide, a nucleic acid encoding the Rho GDI polypeptide, an agent capable of specifically interacting with a MAG polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, a nucleic molecule encoding p21, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho polypeptide, an agent capable of specifically interacting with a Rho kinase and an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof, to the nerve in an amount effective for

regeneration.

157. A method according to claim 153, wherein the agent is bound to a PTD domain.

158. A composition for disrupting or reducing inhibition of neurite outgrowth, comprising an agent capable of inhibiting a p75 signal transduction pathway.

159. A composition according to claim 158, wherein the agent capable of inhibiting the p75 signal transduction pathway is in a form appropriate for delivery to a neuron at a site desired for nerve regeneration.

160. A composition according to claim 158, wherein the agent capable of inhibiting the p75 signal transduction pathway comprises a transduction agent in the p75 signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction pathway.

161. A composition according to claim 160, wherein the transduction agent in the p75 signal transduction pathway comprises at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

162. A composition according to claim 158, wherein the agent capable of inhibiting the p75 signal transduction pathway has at least one action selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of PKC, activation of IP_3, inhibition of an interaction between GT1b and p75, inhibition of an

interaction between p75 and Rho, inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase.

163. A composition according to claim 158, wherein the agent capable of inhibiting the p75 signal transduction pathway comprises at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of suppressing or extinguishing an interaction between p75 and Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase, and wherein

the agent capable of inhibiting the p75 signal transduction pathway is present in an amount effective for regeneration.

164. A composition according to claim 158, wherein the agent capable of inhibiting the p75 signal transduction pathway comprises at least one molecule selected from the group consisting of a Pep5 polypeptide, a nucleic acid molecule encoding the Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an

agent capable of specifically interacting with a p75 polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, a nucleic acid molecule encoding the p75 extracellular domain polypeptide, an agent capable of specifically interacting with a Rho GDI polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho GDI polypeptide, the Rho GDI polypeptide, a nucleic acid encoding the Rho GDI polypeptide, an agent capable of specifically interacting with a MAG polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, a nucleic molecule encoding p21, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho polypeptide, an agent capable of specifically interacting with a Rho kinase and an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof.

165. A composition according to claim 158, wherein the agent is bound to a PTD domain.

166. A method for constructing a network of neurons, comprising the step of:

inhibiting a p75 signal transduction pathway in the neuron.

167. A method according to claim 166, wherein the inhibition of the p75 signal transduction pathway is achieved by providing a transduction agent in the p75

signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction pathway to the neuron in an amount effective for regeneration.

168. A method according to claim 166, wherein the transduction agent in the p75 signal transduction pathway is at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

169. A method according to claim 166, wherein the inhibition of the p75 signal transduction pathway is selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of PKC, activation of IP_3, inhibition of an interaction between GT1b and p75, inhibition of an interaction between p75 and Rho, inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase.

170. A method according to claim 166, wherein the inhibition of the p75 signal transduction pathway is achieved by providing at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of suppressing or extinguishing an interaction between p75 and

Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase, in an amount effective for regeneration.

171. A method according to claim 166, wherein the step of inhibiting the p75 signal transduction pathway comprises the step of:

providing a composition comprising at least one molecule selected from the group consisting of a Pep5 polypeptide, a nucleic acid molecule encoding the Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of specifically interacting with a p75 polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, a nucleic acid molecule encoding the p75 extracellular domain polypeptide, an agent capable of specifically interacting with a Rho GDI polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho GDI polypeptide, the Rho GDI polypeptide, a nucleic acid encoding the Rho GDI polypeptide, an agent capable of specifically interacting with a MAG polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, a nucleic molecule encoding p21, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho

polypeptide, an agent capable of specifically interacting with a Rho kinase, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof, to the neuron in an amount effective for regeneration.

172. A method according to claim 167, wherein the agent is bound to a PTD domain.

173. A composition for constructing a network of neurons, comprising an agent capable of inhibiting a p75 signal transduction pathway.

174. A composition according to claim 173, wherein the agent capable of inhibiting the p75 signal transduction pathway comprises a transduction agent in the p75 signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction pathway.

175. A composition according to claim 174, wherein the transduction agent in the p75 signal transduction pathway comprises at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

176. A composition according to claim 173, wherein the agent capable of inhibiting the p75 signal transduction pathway has at least one action selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of an interaction between GT1b and p75, inhibition of PKC, activation of IP_3, inhibition of an interaction between p75 and Rho, inhibition of an

interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase.

177. A composition according to claim 173, wherein the agent capable of inhibiting the p75 signal transduction pathway comprises at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of suppressing or extinguishing an interaction between p75 and Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase, and wherein

the agent capable of inhibiting the p75 signal transduction pathway is present in an amount effective for regeneration.

178. A composition according to claim 173, wherein the agent capable of inhibiting the p75 signal transduction pathway comprises at least one molecule selected from the group consisting of a Pep5 polypeptide, a nucleic acid molecule encoding the Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of specifically interacting with a p75

polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, a nucleic acid molecule encoding the p75 extracellular domain polypeptide, an agent capable of specifically interacting with a Rho GDI polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho GDI polypeptide, the Rho GDI polypeptide, a nucleic acid encoding the Rho GDI polypeptide, an agent capable of specifically interacting with a MAG polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, a nucleic molecule encoding p21, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho polypeptide, an agent capable of specifically interacting with a Rho kinase and an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof.

179. A composition according to claim 174, wherein the agent is bound to a PTD domain.

180. A kit for treatment of neurological diseases, comprising:

(A) a cell population regenerated with a composition comprising an agent capable of inhibiting a p75 signal transduction pathway; and

(B) a container for preserving the cell population.

181. A kit according to claim 180, wherein the agent capable of inhibiting the p75 signal transduction pathway

comprises a transduction agent in the p75 signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction pathway.

182. A kit according to claim 181, wherein the transduction agent in the p75 signal transduction pathway comprises at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21 and Rho kinase.

183. A kit according to claim 180, wherein the agent capable of inhibiting the p75 signal transduction pathway has at least one action selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of an interaction between GT1b and p75, inhibition of PKC, activation of IP_3, inhibition of an interaction between p75 and Rho, inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase.

184. A kit according to claim 180, wherein the agent capable of inhibiting the p75 signal transduction pathway comprises at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of suppressing or extinguishing an interaction between p75 and

Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase, and wherein

the agent capable of inhibiting the p75 signal transduction pathway is present in an amount effective for regeneration.

185. A kit according to claim 180, wherein the agent capable of inhibiting the p75 signal transduction pathway comprises at least one molecule selected from the group consisting of a Pep5 polypeptide, a nucleic acid molecule encoding the Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of specifically interacting with a p75 polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, a nucleic acid molecule encoding the p75 extracellular domain polypeptide, an agent capable of specifically interacting with a Rho GDI polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho GDI polypeptide, the Rho GDI polypeptide, a nucleic acid encoding the Rho GDI polypeptide, an agent capable of specifically interacting with a MAG polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, a nucleic molecule encoding p21, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid

molecule encoding the Rho polypeptide, an agent capable of specifically interacting with a Rho kinase and an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof.

186. A kit according to claim 181, wherein the agent is bound to a PTD domain.

187. A method for treating neurological diseases, comprising the steps of:

(a) providing a cell population regenerated with a composition comprising an agent capable of inhibiting a p75 signal transduction pathway; and

(b) transplanting the cell population to a patient.

188. A method according to claim 187, wherein the inhibition of the p75 signal transduction pathway is achieved by providing a transduction agent in the p75 signal transduction pathway or a variant or fragment thereof, or an agent capable of specifically interacting with the transduction agent in the p75 signal transduction pathway to the neuron in an amount effective for regeneration.

189. A method according to claim 188, wherein the transduction agent in the p75 signal transduction pathway is at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

190. A method according to claim 187, wherein the inhibition of the p75 signal transduction pathway is

selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of PKC, activation of IP_3, inhibition of an interaction between GT1b and p75, inhibition of an interaction between p75 and Rho, inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase.

191. A method according to claim 187, wherein the inhibition of the p75 signal transduction pathway is achieved by providing at least one agent selected from the group consisting of an agent capable of suppressing or extinguishing an interaction between MAG and GT1b, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of suppressing or extinguishing an interaction between GT1b and p75, an agent capable of suppressing or extinguishing an interaction between p75 and Rho GDI, an agent capable of suppressing or extinguishing an interaction between p75 and Rho, an agent capable of maintaining or enhancing an interaction between Rho and Rho GDI, an agent capable of inhibiting conversion from Rho GDP to Rho GTP, an agent capable of inhibiting an interaction between Rho and Rho kinase, and an agent capable of inhibiting an activity of Rho kinase, in an amount effective for regeneration.

192. A method according to claim 187, wherein the step of inhibiting the p75 signal transduction pathway comprises the step of:

providing a composition comprising at least one molecule selected from the group consisting of a Pep5

polypeptide, a nucleic acid molecule encoding the Pep5 polypeptide, an agent capable of inhibiting PKC, an agent capable of activating IP_3, an agent capable of specifically interacting with a p75 polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the p75 polypeptide, a p75 extracellular domain polypeptide, a nucleic acid molecule encoding the p75 extracellular domain polypeptide, an agent capable of specifically interacting with a Rho GDI polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho GDI polypeptide, the Rho GDI polypeptide, a nucleic acid encoding the Rho GDI polypeptide, an agent capable of specifically interacting with a MAG polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the MAG polypeptide, a p21 polypeptide, a nucleic molecule encoding p21, an agent capable of specifically interacting with a Rho polypeptide, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho polypeptide, an agent capable of specifically interacting with a Rho kinase, an agent capable of specifically interacting with a nucleic acid molecule encoding the Rho kinase, and variants and fragments thereof, to the neuron in an amount effective for regeneration.

193. A method according to claim 188, wherein the agent is bound to a PTD domain.

194. A screening method for identifying an agent which induces nerve regeneration, comprising the steps of:

(a) contacting at least two agents capable of interacting with each other in a p75 signal transduction pathway in the presence of a test agent; and

(b) comparing a level of an interaction between the at least two agents in the presence of a test agent with a level of an interaction of the at least two agents in the absence of the test agent,

wherein the test agent is identified as an agent for regenerating nerves when the level of the interaction in the presence of the test agent is reduced as compared to the level of the interaction in the absence of the test agent.

195. A method according to claim 194, wherein the interaction includes at least one interaction selected from the group consisting of an interaction between MAG and GT1b, an interaction between GT1b and p75, an interaction between p75 and Rho, an interaction between p75 and Rho GDI, interaction between Rho and Rho GDI, conversion from Rho GDP to Rho GTP, an interaction between Rho and Rho kinase, and an activity of Rho kinase, and

the reduction of the interaction includes at least one action selected from the group consisting of inhibition of the interaction between MAG and GT1b, inhibition of the interaction between GT1b and p75, inhibition of the interaction between p75 and Rho, inhibition of the interaction between p75 and Rho GDI, maintenance or enhancement of the interaction between Rho and Rho GDI, inhibition of the conversion from Rho GDP to Rho GTP, inhibition of the interaction between Rho and Rho kinase, and inhibition of the activity of Rho kinase.

196. A method according to claim 194, wherein the at least two agents comprise a first polypeptide having an amino acid sequence having at least 70% homology to SEQ ID NO. 4 or 17 or a fragment thereof and a second polypeptide having

an amino acid sequence having at least 70% homology to SEQ ID NO. 6 or a fragment thereof, and

the comparing step (b) comprises comparing a binding level of the first polypeptide and the second polypeptide in the presence of the test agent with a binding level of the first polypeptide and the second polypeptide in the absence of the test agent.

197. A modulating agent, identified by a method according to claim 194.

198. A pharmaceutical composition, comprising a modulating agent according to claim 197.

199. A method for prophylaxis or treatment of neurological diseases, disorders or conditions, comprising the step of:

administering a pharmaceutical composition according to claim 198 to a subject.

200. A vector, comprising at least one nucleic acid molecule selected from the group consisting of a nucleic acid molecule encoding a MAG polypeptide, a nucleic acid molecule encoding a p75 polypeptide, a nucleic acid encoding a Rho GDI polypeptide, a nucleic acid molecule encoding Rho, a nucleic molecule encoding p21, and a nucleic acid molecule encoding Rho kinase, wherein the at least one nucleic acid molecule has a sequence comprising an introduced sequence different from a sequence of a wild type of the at least one nucleic acid molecule.

201. A cell, comprising a vector according to claim 200.

202. A tissue, comprising a vector according to claim 200.

203. An organ, comprising a vector according to claim 200.

204. An organism, comprising a vector according to claim 200.

205. A nerve-modified transgenic animal, transformed with a vector according to claim 200.

206. A nerve-modified knockout animal, wherein at least one nucleic acid molecule selected from the group consisting of a nucleic acid molecule encoding a MAG polypeptide, a nucleic acid molecule encoding a p75 polypeptide, a nucleic acid encoding a Rho GDI polypeptide, a nucleic acid molecule encoding Rho, a nucleic molecule encoding p21, and a nucleic acid molecule encoding a Rho kinase, is deleted.

207. A method for modulating nerve regeneration, comprising the step of:

modulating a p75 signal transduction pathway.

208. A method according to claim 207, further comprising the step of:

modulating at least one agent selected from the group consisting of PKC and IP_3.

209. A method according to claim 207, further comprising the step of:

modulating both PKC and IP_3.

210. A method according to claim 207, comprising the step

of:

inhibiting PKC.

211. A method according to claim 207, comprising the step of:

activating IP_3.

212. A method according to claim 207, wherein the step of modulating the p75 signal transduction pathway comprises modulating at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

213. A method according to claim 207, wherein the step of modulating the p75 signal transduction pathway comprises modulating RhoA.

214. A method according to claim 207, wherein the step of modulating the p75 signal transduction pathway comprises activating RhoA and inhibiting PKC, and the modulation of nerve regeneration is activation of nerve regeneration.

215. A method according to claim 214, further comprising the step of:

activating IP_3.

216. A method according to claim 208, wherein the step of modulating PKC comprises modulating at least one agent selected from the group consisting of MAG, Nogo and p75.

217. A method according to claim 208, wherein the step of modulating IP_3 comprises modulating at least one agent selected from the group consisting of MAG, Nogo and p75.

218. A method according to claim 207, wherein the nerve regeneration is carried out *in vivo* or *in vitro*.

219. A method according to claim 207, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

220. A method according to claim 208, wherein the agent is bound to a PTD domain.

221. A method for treatment, prophylaxis, diagnosis or prognosis of nervous disorders and/or nervous conditions, comprising the step of:

modulating a p75 signal transduction pathway in a subject in need of or suspected of being in need of the treatment, prophylaxis, diagnosis or prognosis,

wherein a transduction agent of the p75 signal transduction pathway comprises PKC and IP_3.

222. A method according to claim 221, further comprising the step of:

modulating at least one agent selected from the group consisting of PKC and IP_3.

223. A method according to claim 221, further comprising the step of:

modulating both PKC and IP_3.

224. A method according to claim 221, comprising the step of:

inhibiting PKC.

225. A method according to claim 221, comprising the step of:

activating IP_3.

226. A method according to claim 221, wherein the step of modulating the p75 signal transduction pathway comprises modulating at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

227. A method according to claim 221, wherein the step of modulating the p75 signal transduction pathway comprises modulating RhoA.

228. A method according to claim 221, wherein the step of modulating the p75 signal transduction pathway comprises activating RhoA and inhibiting PKC, and the modulation of nerve regeneration is activation of nerve regeneration.

229. A method according to claim 228, further comprising the step of:

activating IP_3.

230. A method according to claim 222, wherein the step of modulating PKC comprises modulating at least one agent selected from the group consisting of MAG, Nogo and p75.

231. A method according to claim 222, wherein the step of modulating IP_3 comprises modulating at least one agent selected from the group consisting of MAG, Nogo and p75.

232. A method according to claim 221, wherein the nerve regeneration is carried out *in vivo* or *in vitro*.

233. A method according to claim 221, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

234. A method according to claim 208, wherein the agent is bound to a PTD domain.

235. A composition for modulating nerve regeneration, comprising an agent capable of inhibiting a p75 signal transduction pathway.

236. A composition according to claim 235, further comprising at least one agent selected from the group consisting of an agent capable of modulating PKC and an agent capable of modulating IP_3.

237. A composition according to claim 235, further comprising both an agent capable of modulating PKC and an agent capable of modulating IP_3.

238. A composition according to claim 235, comprising an agent capable of inhibiting PKC.

239. A composition according to claim 235, comprising an agent capable of inhibiting IP_3.

240. A composition according to claim 235, wherein the agent capable of modulating the p75 signal transduction pathway comprises an agent capable of modulating at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

241. A composition according to claim 235, wherein the agent capable of modulating the p75 signal transduction pathway comprises an agent capable of modulating RhoA.

242. A composition according to claim 235, wherein the agent capable of modulating the p75 signal transduction pathway comprises an agent capable of activating RhoA and an agent capable of inhibiting PKC, and the modulation of nerve regeneration is activation of nerve regeneration.

243. A composition according to claim 242, further comprising an agent capable of activating IP_3.

244. A composition according to claim 236, wherein the agent capable of modulating PKC is selected from the group consisting of MAG, Nogo and p75.

245. A composition according to claim 236, wherein the agent capable of modulating IP_3 is selected from the group consisting of MAG, Nogo and p75.

246. A composition according to claim 235, wherein the nerve regeneration is carried out *in vivo* or *in vitro*.

247. A composition according to claim 235, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

248. A composition according to claim 236, wherein the agent is bound to a PTD domain.

249. A composition for treatment, prophylaxis, diagnosis or

prognosis of nervous diseases, nervous disorders and/or nervous conditions, comprising an agent capable of modulating a p75 signal transduction pathway,

wherein a transduction agent of the p75 signal transduction pathway comprises PKC and IP_3.

250. A composition according to claim 249, further comprising at least one agent selected from the group consisting of an agent capable of modulating PKC and an agent capable of modulating IP_3.

251. A composition according to claim 249, further comprising both an agent capable of modulating PKC and an agent capable of modulating IP_3.

252. A composition according to claim 249, comprising an agent capable of inhibiting PKC.

253. A composition according to claim 249, comprising an agent capable of inhibiting IP_3.

254. A composition according to claim 249, wherein the agent capable of modulating the p75 signal transduction pathway comprises an agent capable of modulating at least one transduction agent selected from the group consisting of MAG, PKC, IP_3, GT1b, p75, Rho GDI, Rho, p21, and Rho kinase.

255. A composition according to claim 249, wherein the agent capable of modulating the p75 signal transduction pathway comprises an agent capable of modulating RhoA.

256. A composition according to claim 249, wherein the

agent capable of modulating the p75 signal transduction pathway comprises an agent capable of activating RhoA and an agent capable of inhibiting PKC, and the modulation of nerve regeneration is activation of nerve regeneration.

257. A composition according to claim 256, further comprising an agent capable of activating IP_3.

258. A composition according to claim 250, wherein the agent capable of modulating PKC is selected from the group consisting of MAG, Nogo and p75.

259. A composition according to claim 250, wherein the agent capable of modulating IP_3 is selected from the group consisting of MAG, Nogo and p75.

260. A composition according to claim 249, wherein the nerve regeneration is carried out *in vivo* or *in vitro*.

261. A composition according to claim 249, wherein the nerve includes spinal cord injury, cerebrovascular disorder, or brain injury.

262. A composition according to claim 250, wherein the agent is bound to a PTD domain.